REMARKS

With regard to the objections to claims 1, 6 and 11, those claims have been amended to define "LSB" the first time it is used in each of these claims.

Reconsideration is respectfully requested of the rejection of all of the claims 1 – 15 under 35 U.S.C. § 103(a) over U.S. patents nos. 6,301,596 ("Karanovic") and 4,965,668 ("Abt et al."). Neither of these references is believed to suggest the claimed technique of generating a supplement signal by exclusively-ORing a product of bits of the input signal and then adding that supplement signal to the input signal.

It is respectfully submitted that the two cited references do not meet the terms of any of the three independent claims 1, 6 and 11, no matter how their teachings might be pieced together in hindsight, so could not have rendered them obvious. Further, it is respectfully submitted that it would not have been obvious to combine the references in the ways alleged in the Office Action.

Each of the rejected claims calls for developing a supplement signal from an exclusive-OR product of the least significant bits of the M-bit input signal, and the supplement signal is then combined with the input signal to produce an output signal. The Office Action (p. 3, lns. 9-11) acknowledges that Karanovic does not suggest this, relying instead on Figures 2 and 7 of Abt et al. for an exclusive-OR circuit. But only one input of each of the exclusive-OR gates 38 carries the input signal. The second input of the exclusive-OR gates 38 comes from a random number generator 32. This does not form an exclusive-OR product of bits of the M-bit input signal as claimed. In Abt et al., their input bits are exclusively-ORed with random numbers, rather that with other input bits as claimed. This primary feature of all the claims is not suggested by either Karonovic or Abt et al.

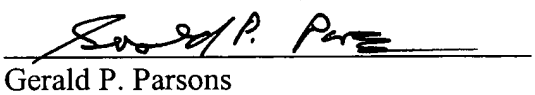
In the rejection over Karanovic over Abt et al., the Office Action states that it would have been obvious to include the exclusive-OR circuit and output signal in Karanovic's circuit. But it is not understood where the circuit of Abt et al. would have been placed in the circuit of Karanovic by one of ordinary skill, and the Office Action makes no suggestion in this regard. It is further not understood how Karonovic's circuit of Figure 1 could be modified to accommodate the exclusive-OR circuit of Abt et al. in any functional manner. But even if it was, the claimed limitation of the N least significant bits of the M-bit input signal being exclusively-ORed together and the result added back to the M-bit input signal would not be present.

Further, no motivation or suggestion can be found from these two cited references that they should somehow be combined at all, let alone to meet the terms of the present application claims. The Office Action alleges (p. 3, lns. 14-16) a reason why it would have been obvious to combine the missing exclusive-OR function from Abt et al. into Karanovic but the cited passage is not seen to relate to the allegation. Similarly, the Office Action alleges (p. 5, lns. 16-17) a reason why it would have been obvious to use the entire circuit of Abt et al. in place of Karanovic's circuit but nothing can be found in the references to suggest this.

In summary, neither the Karanovic reference nor the Abt et al. reference suggest, either alone or together, the claimed technique of combining the least significant bits of a filtered input signal by an exclusive-OR function to obtain a supplement signal that is then added to the input signal to adjust the noise floor of the input signal for low frequencies. The Karonovic patent combines a multi-bit random number with an input signal for the purpose of scaling the size of a video display. The Abt et al. patent also combines a random number with the input signal (Figure 7) by the exclusive-OR gates 38, its purpose to adaptively round off digital video signals. Neither of these references suggests generating a supplement signal by exclusively-ORing a product of bits of the input signal and then adding that supplement signal to the input signal.

Accordingly, it is believed that this application is now in condition for allowance and an early indication of its allowance is solicited. However, if the Examiner has any further matters that need to be resolved, a telephone call to the undersigned attorney at 415-318-1163 would be appreciated.

Respectfully submitted,



June 1, 2004
Date

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